

ANATOMICAL AND TECHNICAL REASONS WHY THE PERINEAL IS PREFERABLE TO THE SUPRAPUBIC ROUTE IN PROSTATIC SURGERY.¹

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UP to the present time the patients suffering from enlarged prostates have not received the relief to which they are entitled. We begin to realize that the catheter is but a makeshift. It doubtless served a good purpose in preantiseptic days, but with our present methods it is an open question whether, by preventing early operation, it does not do more harm than good. Many good surgeons believe, to-day, that a prostatic's real danger begins with the use of the catheter.

It is very fitting that we should at this time exchange views and experiences upon this subject, for we should be able to say to these sufferers, when they arrive at a point where they can no longer empty their bladders without artificial aid, that we have an operation that will quickly and safely relieve them. We owe it to ourselves to so perfect our technique that we can conscientiously recommend the operation to them before their bladders and kidneys have become dangerously infected. It is not in keeping with modern surgery to accept as the only indication for radical treatment a threatened break-down in catheter life. The more perfect our technique for the radical operation, the less use we will have for the palliative operations, because it is only after radical operation that the cure is complete and permanent. We must popularize the operation so that we can gain permission to perform it early.

¹ Read before the American Surgical Association, June, 1902.

The present lively interest manifested in the subject is in marked contrast to what it has been in former years. In the nineteen years' history of this Association very few papers have been read upon this topic.

In 1885, Gouley read a paper describing a set of new instruments for the performance of Mercier's operation. He reported nine cases in which he performed this operation, with one death and three recurrences. He advised the use of the catheter in all cases after the operation. He mentioned Bottini's operation, but questioned its utility. In the discussion of this paper, S. W. Gross recommended perineal prostatotomy.

In 1888, Hunter McGuire read his classic paper on "Formation of an Artificial Urethra for Prostatic Obstruction."

In 1893, J. W. White read a paper entitled "Present Position of the Surgery of the Prostate," which excited world-wide attention. He spoke favorably of suprapubic prostatectomy and of prostatotomy, but condemned perineal prostatectomy because he claimed that in only one-third or one-fourth of the cases could the prostate be reached by that route. The chief point in this paper, however, was the suggestion of castration as a method of treatment for enlarged prostates.

In 1895, White and Mears reported cases treated by castration.

In 1898, Lane contributed a very brief paper advocating suprapubic prostatectomy.

This is certainly a very small showing for so important a subject in so long a time, and is in marked contrast to the literature upon analogous conditions in women during the same period. This lethargy was probably largely due to our mistaken belief as to the influence of age *per se* upon surgical operations. Age is no contraindication to prostatic surgery so long as the kidneys are not too far gone.

Although the writer has done most of his prostatic work by the suprapubic route, he is convinced that the perineal operation is the operation of the future. In arriving at this conclusion, careful dissections have been made and specimens preserved.

It seems rational to conclude that the surgeon who hopes to achieve the greatest success should be able to perform each of the different prostatectomies with equal skill, and to be able to choose the one best fitted to each individual case, but the tendency is to popularize one method, and to so perfect it that it becomes applicable to the vast majority of cases. It is of interest, in this connection, to recall the history of lithotomy. Although the suprapubic operation for stone was introduced in the sixteenth century, it was looked upon with disfavor until within a very few years. In Agnew's "Surgery," published in 1889, the author states that the suprapubic operation is four times as dangerous as the lateral perineal, and advises that the upper operation be employed only when the stone is very large, but at the present time the upper operation is universally accepted as the safest and best cutting operation for stone.

The writer became a believer in the feasibility of the perineal route for prostatectomy through his experience with massage of the prostate through the rectum. In many instances the prostate could scarcely be reached through the rectum, but it was found that by introducing a short-curved sound and turning it over, pointing the tip towards the rectum, the prostate could always be dragged down so that every part of the gland, and even the base of the bladder beyond it, could be easily reached.

From an anatomical standpoint every fact is in favor of the perineal and against the suprapubic route. The cystitis in these cases is always secondary to the prostatic changes, and no matter how severe it may be, it improves rapidly after removal of this mechanical cause followed by drainage. We have all demonstrated repeatedly the fallacy of the belief that the bladder has undergone irreparable degenerative changes in chronic cystitis from enlarged prostate. The bladder is not the offending organ, and not the one to be operated upon in these cases; but in order to reach the enlarged prostate by the suprapubic route, whether the enlargement be in the lateral or central lobes, two and sometimes three openings must be made into it. Each of these openings made into a viscus with septic contents must

have an independent mortality rate, and should be avoided if possible.

The prostate is not developed until puberty, and its function evidently has to do with generation and not with urination. It has been clearly demonstrated that its removal does not interfere with urination or bladder control. It must be, therefore, when a patient loses control of his bladder, as sometimes happens after a prostatic operation, that it is due to injury to the bladder itself. By the suprapubic route serious injuries to the bladder are essential features of the operation, and the amount of injury cannot always be controlled, but by the perineal route the bladder need not and should not be injured. Although some of the muscular fibres of the bladder are continuous with the prostate, a good thick bladder wall is left after the prostate is removed. Even when the third lobe projects well into the bladder, it pushes the bladder wall ahead of it. The prostate lies entirely outside and below the bladder, being much nearer the perineal than the abdominal surface. The writer has made careful measurements on the cadaver, and has found that from the surface of the skin to the prostate is twice as far by the upper as by the lower route. The approach by the perineal route is through comparatively unimportant anatomical structures. The transverse and horseshoe incisions in the perineum as originally made for prostatectomy are open to the same objections as the upper operations. They are too much surgery and offer a large field for infection. They sever arteries and nerves and cut muscles crosswise. The median perineal incision, however, has none of these objections. It permits access to the prostate by the most direct route; it severs no blood-vessels or nerves, and it separates muscular tissue along a natural line of cleavage.

After removal of the prostate by either route, the generative function is probably abolished because the ejaculatory ducts are destroyed. The act of copulation can be performed, but it is scarcely possible that the contents of the vesicula seminales can reach the urethra, and if it should, the chances are that, lacking the secretion and the ejaculating force of the prostate,

it would get no farther or would lose its efficacy in transit. Fortunately, our patients are at the age when they have very little concern for this function, and are perfectly content if they can present a good appearance.

Some writers claim to have performed total prostatectomy by the suprapubic route with preservation of the prostatic urethra (Freyer, *British Medical Journal*, February 1, 1902). The organ can be completely extirpated by either route, but the preservation of the whole urethra is an anatomical impossibility, because of its close attachments at the point of entrance of the ejaculatory and prostatic ducts.

When a total prostatectomy is performed, the prostatic urethra must always be seriously injured and often destroyed. The perineal route offers much better opportunity for careful dissection and preservation of the parts. While the prostatic urethra has often been sacrificed in total prostatectomy without serious results, it is theoretically objectionable because of the tendency to stricture. Murphy (*Journal of the American Medical Association*, March 29, 1902) calls attention to the fact that the removal of the bridge, or that part of the prostate between the urethra and the bladder, is entirely unnecessary, as it shows no tendency to hypertrophy. The so-called third lobe, it should be remembered, is not a part of the bridge, but is a projection from the lateral lobes backward beyond the inner opening of the urethra. By the perineal route the lateral and third lobes can be removed, and by leaving the bridge only a small portion of the floor of the urethra need be sacrificed. Through this opening in the floor of the urethra the bladder should be entered, thus preserving the anatomical integrity of that organ. This is one of the strong points in favor of the perineal route.

The suprapubic operation has been the operation of choice, because within the past few years it has become so popular as the route for lithotomy, and because the third lobe is so easily reached in that way. A surgeon who is competent to perform prostatectomy does not need to have the technique made easy for him, and our present technique of the perineal operation is

not specially difficult. In fact, for the removal of the lateral lobes as found in the majority of cases the technique of the perineal operation is less difficult than that of the suprapubic. The operator's fingers grow longer in this operation as he grows in experience.

Prostatectomy by either route is not ordinarily alarmingly bloody, but when hæmorrhage does occur it is much easier to control in the perineal operation.

In a patient with healthy kidneys the most imminent danger after a prostatectomy is sepsis, and the facilities for drainage after the perineal operation are infinitely superior to those after the upper operation. The suprapubic operation leaves one or more deep ragged holes in the dependent portion of the bladder in which the septic contents of the bladder naturally collect, and infection is very liable to occur. The most successful operations by the suprapubic route are those in which perineal drainage is established. Since the feasibility of removing the prostate through the perineum has been demonstrated, it seems rational to choose this route, thus avoiding injury to the bladder and providing for efficient drainage through the urethral opening and the operation wound. Urine can be efficiently drained off through the upper opening, but the detritus cannot.

Those objecting to the perineal operation claim that there is too little room, and that the prostate cannot be reached. Either the modern inverted Y-shaped or the semilunar incision affords a much better approach to the gland than the suprapubic, and the structures cut through are much less important than the bladder walls. Through these incisions the operation can be performed under the eye, while the suprapubic operation is all in the dark. It has been demonstrated that in the majority of cases the prostate can be readily removed through a straight incision from the scrotum to the anus. Ferguson says that any prostate can be removed through this incision, the secret of success being to keep well within the capsule and to pull or push the gland well down.¹

¹ Paper read before the Western Surgical and Gynæcological Association, December, 1901.

The writer believes that the perineal route is safer and better than the suprapubic route for prostatectomy in all cases except where either the third or lateral lobes are very soft and vascular and project far into the bladder. The operation is still in its infancy and can be greatly improved. The present operation, in which the gland is pulled down by a staff in the bladder or by hooks and forceps from the outside, is a very great improvement upon the bimanual operation, in which the bladder is unnecessarily injured. In my opinion a complete prostatectomy is seldom the operation of choice. Removal of the lateral lobes and the third lobe when present, leaving the isthmus and preserving the greater part of the prostatic urethra, will relieve our patient's suffering, and will be followed by better functional results. This can all be done in the majority of cases through the median incision. In the exceptional cases where this incision does not afford ample room it can be changed into the inverted Y-incision by adding a lateral incision outward and backward towards the tuberosity of the ischium on either side. These lateral incisions should go down to the perineal muscles, but not through them, and they should not involve the sphincter. This incision gives abundant room, and is not open to the same objections that can be made to other perineal incisions, and it also avoids the mutilation of the unoffending bladder incident to the suprapubic operation. When this incision is made and narrow lateral retractors used, the prostate can be pushed or pulled down so that the parts are as well exposed and as easy to reach as in a vaginal hysterectomy. The writer has found that at the beginning of the operation a Ferguson staff or an ordinary short-beaked steel sound will bring the gland down within easy reach, but that after the capsule is dissected well back it is often an advantage to remove the staff and depend upon instruments with which one can take hold of the prostate and drag it down. A small-sized Hanks vulsellum forceps answers the purpose admirably. When the lateral incisions are made they can be closed up at once.